

**Manchester Health Department
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Pyrethroid Pesticides for Mosquito Control

Why spray for mosquitoes?

State and local public health officials make decisions to use pesticides to control mosquitoes based on an evaluation of the risks to the general public from diseases transmitted by mosquitoes.

What pesticides may be used in New Hampshire to control mosquitoes?

New Hampshire has several different pesticide products that are registered for mosquito control. The pesticide may be targeted at adult insects (adulticides) or at immature insects (larvicides), depending on the active ingredient. The pesticides of choice that are currently registered for this type of use in New Hampshire are primarily pyrethroid-based products and are targeted at adult mosquitoes.

What are pyrethroid pesticides?

Pyrethroids are a group of synthetic pesticides similar to the natural pesticide pyrethrum (pyrethrins) produced by chrysanthemum flowers. Pyrethroids are more effective than the natural pyrethrins against adult mosquitoes, including the *Culex* species, which can transmit the West Nile virus. Examples of the pyrethroid insecticide active ingredients include, sumithrin (Anvil™), resmethrin (Scourge™), and permethrin (Biomist™). These three products are the most likely to be recommended for spraying practices in New Hampshire, and have been approved by the United States Environmental Protection Agency (EPA) for control of adult mosquitoes in both urban and rural residential environments.

Are pyrethroid insecticides harmful to human beings?

In general, at the concentrations used, most people would not be expected to experience any symptoms. Upon direct contact with pyrethroid-containing products, some people may develop temporary skin irritations, stuffy or runny nose, or mild respiratory, throat, or eye irritation. People with existing respiratory conditions, such as asthma, are encouraged to stay indoors during spraying, since these products may aggravate those conditions.

Where and how could the pesticides be used?

Pesticide application by ground may occur by foot, using backpack sprayers, or by vehicle, using ultra-low volume (ULV) sprayers mounted on trucks. The ULV sprayers disperse very fine aerosol droplets that stay aloft and kill mosquitoes on contact. Aerial applications will be considered as a method of last resort when it becomes evident that a spray program will need to be implemented that covers a broad, remote area than can not be reasonably reached via ground application methods.

What precautions should be taken to protect the public against pesticide exposure during spraying?

In order to avoid direct exposure to pesticides and reduce the risk of any adverse health reactions to pesticides, the following recommendations are suggested:

- Some individuals are sensitive to pesticides. Persons with asthma, or other respiratory conditions, are especially encouraged to stay inside during spraying since there is a possibility that spraying could worsen those conditions.
- Whenever possible, stay indoors during spraying.
- Prevent children from accessing the immediate spray area for approximately one hour after spraying to allow drying of any pesticide residue.
- Wash skin and clothing exposed to pesticides with soap and water.
- Wash any fruit and vegetables exposed to the spray before eating them.
- Cover outdoor tables and play equipment, or wash them with soap and water after they have been sprayed.
- Bring laundry and toys inside before spraying begins, or wash them with soap and water after they have been sprayed.
- Bring pets inside and cover ornamental fishponds to avoid direct pesticide exposure.
- Anyone experiencing adverse reactions to pesticides should call their doctor or the New Hampshire Poison Control Center (800) 562-8236.

Are pyrethroids safe for the environment and wildlife?

Pyrethroids do not pose unreasonable risks to wildlife or the environment. Pyrethroids are low in toxicity to mammals, and are practically non-toxic to birds. Pyrethroids have a relatively low persistence in the environment and degrade rapidly in sunlight and high temperatures. They readily bind to soils and thus are not expected to contaminate groundwater. Pyrethroids are toxic to bees, fish, and other aquatic life forms and should not be applied to open water or within 100 feet of lakes, streams, rivers, or bays. Beehives should be covered with burlap and kept moist during the spraying, and for two to three hours after the spraying has occurred.

How will I be notified if it is decided that pesticide spraying in my neighborhood is necessary?

Should spraying be deemed necessary, the public will be notified at least 24 hours in advance. Likely forms of notification may include notices in local newspapers, announcements on radio and/or television and postings at the actual spray areas.

For more information about West Nile virus, call the Manchester Health Department at 624-6466 or the NH Department of Health and Human Services, West Nile Virus Information Line at 1-866-273-6453.

For general information on pesticides, call the NH Department of Agriculture, Pesticides Division at (603) 271-3550.